ALTERNATIVE DETECTOR CONFIGURATION AND MODE OF OPERATION OF A TIME DELAY INTEGRATION PARTICLE ANALYZER

Abstract of the Disclosure

Light from an object moving through an imaging system is collected, dispersed, and imaged onto a time delay integration (TDI) detector that is inclined relative to an axis of motion of the object, producing a pixilated output signal. In one embodiment, the movement of the image object over the TDI detector is asynchronous with the movement of the output signal producing an output signal that is a composite of the image of the object at varying focal point along the focal plane. In another embodiment, light from the object is periodically incident on the inclined TDI detector, producing a plurality of spaced apart images and corresponding output signals that propagate across the TDI detector. The inclined plane enables images of FISH probes or other components within an object to be produced at different focal points, so that the 3D spatial relationship between the FISH probes or components can be resolved.